

## **ABSTRACT**

Matrices that support cell adhesion and growth are disclosed that deliver low heparin-binding affinity growth factor protein peptides in a controlled manner. These 5 matrices comprise covalently or non-covalently bound heparin or heparin-like polymers, which serve to sequester the low heparin-binding affinity growth factor protein peptides within the matrix. The controlled release of some low heparin-binding affinity growth factor or peptides thereof occurs by degradation of some matrix component or dissociation of the low heparin-binding affinity growth factor 10 protein peptides from the bound heparin. This differs from many controlled delivery devices in that release is not controlled solely by diffusion, and the rate of release may therefore be regulated by altering the rate of degradation of the matrix component or the amount of heparin bound within the matrix. The controlled release of such low heparin-binding affinity growth factor proteins such as NGF- $\beta$ , NT-3 and BDNF, is 15 demonstrated. The invention also identifies basic domains that can be utilized to identify other low heparin-binding affinity growth factor protein peptides useful in delivery as part of the matrices described herein.